

Quiz 1 (01/31)

Name: _____

Problem 1

Predict the output of the following function.

```
In [ ]: function collatz(x::Int64, max_iter)
        n_iter = 0
        while x ≠ 1 && n_iter < max_iter
            n_iter += 1
            if mod(x, 2) == 0
                x ÷= 2
            else
                x = 3 * x + 1
            end
        end
        return x
    end

collatz(3, 3)
```

Problem 2

(Adapted from Project Euler) Write a function that takes in two integers `year1` and `year2`, and returns the number of days between January 1st of `year1` (inclusive) and January 1st of `year2` (exclusive). You may use the following information:

- A regular year has 365 days, and a leap year has 366.
- A leap year occurs on years divisible by four, but not on years divisible by 100 unless it is divisible by exactly 400.

Your code does not have to be perfect, but it should be clearly readable to me (a human)

```
In [ ]: function number_of_days(year1, year2)
```

```
end
```